Does hysteroscopic metroplasty represent a risk factor for adverse outcome during pregnancy and labour?

Nataša Kenda Šuster
Marco Gergolet

Grado 6-7 May 2011

Introduction

- Hysteroscopic metroplasty has become standard procedure in operative treatment of septate uterus [1].
- Because of good reproductive outcome after the treatement the number of procedures has risen rapidly in the last few years [2].

[1] Fayez at al, 1986 - [2] Tomaževič at al 2000, 2007, 2009

Aim of the study

- To evaluate whether hysteroscopic metroplasty on the other hand represents a risk factor for adverse outcome in subsequent pregnancy and during labour.

Hypotheses

- **Rough dilatation of cervix** before histeroscopy may result in cervical insufficiency [1]
  - preterm labour
- **Perforation of the uterus** may weaken uterine wall [2]
  - uterine rupture during pregnancy and labour

[1] Litta at al, 2008, [2] Sentilhes at al, 2006

Hypotheses

- **Deep incision of miometrium** may damage uterine wall [3]
  - abnormalities in placentation
    - placenta praevia, placental abruption, adherent placenta, placenta acreta
  - uterine rupture during pregnancy and labour
  - inappropriate contractility of uterus during labour
    - obstruction of labour/prolonged labour
  - Inadequate contractility of uterus after delivery
    - uterine atony, retained placenta or placental fragments (early or late postpartum hemorrhage)

[3] Angell at al, 2002

Methods

- Retrospective comparative study
- **Study group:**
  - 99 women who underwent hysteroscopic metroplasty and gave birth
  - January 2002-December 2007 (General hospital "dr. Franca Derganca" Nova Gorica, Slovenija)
- **Control group:**
  - 4155 women who gave birth in the same hospital in the same period (NPIS*)
- *Only the first delivery after metroplasty was analyzed*

*National perinatal information system of Slovenia
(*) National Perinatal Information System of Slovenia

Methods

- 8 mm monopolar/bipolar operative histeroscop
- Tubal ostia were taken as orientation points and the procedure was stopped when the fundus was aligned with the tubal ostia
- The data on pregnancy and labour were taken from NPIS

Results

Variable	Study group (n = 99)	Control group (n = 4155)	p
Preterm delivery *			
Mean week of gestation			
Mean birth weight (g) **			
Breech presentation			
Placenta praevia			
Placental abruption			
Caesarean section			
Uterine atony			
Retained placental fragments			
Adherent placenta			
Early postpartum hemorrhage			
Late postpartum hemorrhage			
Uterine rupture			

(*) multiple pregnancies excluded - (**) mean birth weight at term

Results

Variable	Study group (n = 99)	Control group (n = 4155)	p
Preterm delivery *	**7 (7,4%)**	**161 (3,9%)**	**0,085**
Mean week of gestation			
Mean birth weight (g) **			
Breech presentation			
Placenta praevia			
Placental abruption			
Caesarean section			
Uterine atony			
Retained placental fragments			
Adherent placenta			
Early postpartum hemorrhage			
Late postpartum hemorrhage			
Uterine rupture			

(*) multiple pregnancies excluded - (**) mean birth weight at term

Results

Variable	Study group (n = 99)	Control group (n = 4155)	p
Preterm delivery *	7 (7,4%)	161 (3,9%)	0,085
Mean week of gestation	**39,21±2,4**	**39,47±1,6**	**0,122**
Mean birth weight (g) **	**3405±430**	**3453±466**	**0,330**
Breech presentation			
Placenta praevia			
Placental abruption			
Caesarean section			
Uterine atony			
Retained placental fragments			
Adherent placenta			
Early postpartum hemorrhage			
Late postpartum hemorrhage			
Uterine rupture			

(*) multiple pregnancies excluded - (**) mean birth weight at term

Results

Variable	Study group (n = 99)	Control group (n = 4155)	p
Preterm delivery *	7 (7,4%)	161 (3,9%)	0,085
Mean week of gestation	39,21±2,4	39,47±1,6	0,122
Mean birth weight (g) **	3405±430	3453±466	0,330
Breech presentation	**3 (3%)**	**161 (3,9%)**	**0,666**
Placenta praevia			
Placental abruption			
Caesarean section			
Uterine atony			
Retained placental fragments			
Adherent placenta			
Early postpartum hemorrhage			
Late postpartum hemorrhage			
Uterine rupture			

(*) multiple pregnancies excluded - (**) mean birth weight at term

Results

Variable	Study group (n = 99)	Control group (n = 4155)	p
Preterm delivery *	7 (7,4%)	161 (3,9%)	0,085
Mean week of gestation	39,21±2,4	39,47±1,6	0,122
Mean birth weight (g) **	3405±430	3453±466	0,330
Breech presentation	3 (3%)	161 (3,9%)	0,666
Placenta praevia	**0 (0%)**	**3 (0,1%)**	**0,782**
Placental abruption	**1 (1%)**	**40 (1%)**	**0,962**
Caesarean section			
Uterine atony			
Retained placental fragments			
Adherent placenta			
Early postpartum hemorrhage			
Late postpartum hemorrhage			
Uterine rupture			

(*) multiple pregnancies excluded - (**) mean birth weight at term

Results

Variable	Study group (n = 99)	Control group (n = 4155)	p
Preterm delivery *	7 (7,4%)	161 (3,9%)	0,085
Mean week of gestation	39,21±2,4	39,47±1,6	0,122
Mean birth weight (g) **	3405±430	3453±466	0,330
Breech presentation	3 (3%)	161 (3,9%)	0,666
Placenta praevia	0 (0%)	3 (0,1%)	0,782
Placental abruption	1 (1%)	40 (1%)	0,962
Caesarean section	**19 (19,2%)**	**59 (15,9%)**	**0,371**
Uterine atony			
Retained placental fragments			
Adherent placenta			
Early postpartum hemorrhage			
Late postpartum hemorrhage			
Uterine rupture			

(*) multiple pregnancies excluded - (**) mean birth weight at term

Results

Variable	Study group (n = 99)	Control group (n = 4155)	p
Preterm delivery *	7 (7,4%)	161 (3,9%)	0,085
Mean week of gestation	39,21±2,4	39,47±1,6	0,122
Mean birth weight (g) **	3405±430	3453±466	0,330
Breech presentation	3 (3%)	161 (3,9%)	0,666
Placenta praevia	0 (0%)	3 (0,1%)	0,782
Placental abruption	1 (1%)	40 (1%)	0,962
Caesarean section	19 (19,2%)	59 (15,9%)	0,371
Uterine atony	**2 (2%)**	**73 (1,8%)**	**0,844**
Retained placental fragments	**2 (2%)**	**41 (1%)**	**0,310**
Adherent placenta	**2 (2%)**	**39 (0,9%)**	**0,276**
Early postpartum hemorrhage	**2 (2%)**	**26 (0,6)**	**0,090**
Late postpartum hemorrhage	**0 (0%)**	**5 (0,1%)**	**0,730**
Uterine rupture			

(*) multiple pregnancies excluded - (**) mean birth weight at term

Results

Variable	Study group (n = 99)	Control group (n = 4155)	p
Preterm delivery *	7 (7,4%)	161 (3,9%)	0,085
Mean week of gestation	39,21±2,4	39,47±1,6	0,122
Mean birth weight (g) **	3405±430	3453±466	0,330
Breech presentation	3 (3%)	161 (3,9%)	0,666
Placenta praevia	0 (0%)	3 (0,1%)	0,782
Placental abruption	1 (1%)	40 (1%)	0,962
Caesarean section	19 (19,2%)	59 (15,9%)	0,371
Uterine atony	2 (2%)	73 (1,8%)	0,844
Retained placental fragments	2 (2%)	41 (1%)	0,310
Adherent placenta	2 (2%)	39 (0,9%)	0,276
Early postpartum hemorrhage	2 (2%)	26 (0,6)	0,090
Late postpartum hemorrhage	0 (0%)	5 (0,1%)	0,730
Uterine rupture	**0 (0%)**	**2 (0,04)**	**0,833**

(*) multiple pregnancies excluded - (**) mean birth weight at term

Conclusion

- No difference in obstetric outcome between the two groups has been found.

Conclusion

- Patients who underwent hysteroscopic metroplasty for septate uterus are at no higher risk of adverse obstetric outcome at term and during labour compared to the general population.
- Vaginal delivery seems to be safe and hysteroscopic metroplasty, in experienced hands, seems not to be harmful for future mothers and their newborns.
- Rare, but serious complications during subsequent pregnancy and labour should, however, be taken into consideration.

Thank you!